

REMARKS

This paper is a response to the non-final Office Action that was mailed on December 24, 2008. As this paper is prior to the three-month statutory period, no fee is believed to be due.

Prior to entry of this paper, Claims 1-14 were pending and claims 1-9 were withdrawn from consideration.

I. Withdrawn Claims

Claims 1-9 were previously withdrawn in response to the restriction requirement of October 6, 2008. Withdrawal of the non-elected claims, as set forth herein, is solely to comply with the Restriction Requirement and withdrawal of these claims is not to be construed as surrender of any subject matter in the instant application. Applicants hereby reserve the right to pursue the subject matter of the withdrawn claims in one or more continuation or divisional patent applications.

II. Amendments to the Claims

In this paper, claim 10 has been amended to substantially include the limitations of claim 13. Claim 10 has also been amended to recite the limitation “wherein the thickness of the [electrically] insulating film is at least 0.005 microns and less than or equal to 20 microns”. Support for this limitation is found throughout the Specification. (Sec, e.g., Specification, paragraph [0037]) Claim 10 has also been amended to recite the limitation “wherein said metal magnetic particles are iron comprising particles”. Support for this limitation also is found throughout the Specification. (See, e.g., Specification, paragraph [0028]) Claims 12-14 have been amended to maintain consistency among the claims. Claims 10 and 12 have also been amended to address indefiniteness issues, as

described below. Claim 13 has been cancelled. New claim 15 is presented for consideration. No new subject matter has been introduced by these claim amendments.

III. Rejections under 35 U.S.C. 112

In the Office Action, claims 10-14 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of Applicants' invention. In particular, the Office Action objects to the use of the term "essentially solely" with respect to claim 10. The Office Action asserts that the use of this phrase makes it unclear in claim 10 as to whether the particle size distribution is limited to the range recited in claim 10 or extends beyond the range. In this paper, Applicants have amended claim 10 to remove the term "solely". Applicants have similarly amended claim 12. Applicants respectfully submit that under established practice before the U.S. Patent Office and under U.S. patent law, the term "essentially" is not considered to render a claim indefinite. Particularly this applies to ranges where it would be unavoidable to fall outside the recited range during practice of the claimed invention, as in the case of forming small metal particles. Therefore, Applicants respectfully submit that as the claimed particle size distribution is now distinctly claimed, the rejection under 35 U.S.C. 112 is now moot. Applicants therefore respectfully request withdrawal of this rejection.

IV. Rejections under 35 U.S.C. 103

In the Office Action, claims 10-14 were rejected as being unpatentable over U.S. Pat. No. 5,925,836 to Krause et al. (Krause). Applicants respectfully disagree.

With respect to claim 10, Applicants respectfully submit that Krause fails to disclose or suggest a powder including metal magnetic particles having an insulating film surrounding the surfaces of the metal magnetic particles. Krause discloses soft magnetic metal components manufactured by powder metallurgy and infiltration. That is, a plurality of acicular metal particles are joined, by pressing and/or sintering, to form a skeleton. An infiltrant metal or infiltrant metal alloy is then utilized to fill in the gaps in the skeleton to form the final magnetic component. (See, e.g., Col. 7, line 58, to Col. 8, line 19.) One of ordinary skill in the art will readily recognize that by utilizing an infiltrant metal or infiltrant metal alloy, the acicular metal particles in the skeleton of Krause are effectively coated with an electrically conducting film, not an electrically insulating film.

Additionally, not only does Krause fail to disclose an electrically insulating film, but teaches away from its use. In particular, Krause explicitly notes that use of an electrically conducting film is desirable in order to preserve or even improve the mechanical and electrical properties of the particles in the skeleton. (See, e.g., Col. 15, lines 16-25.)

In contrast, claim 1, as amended, explicitly recites an electrically insulating film for surrounding the surfaces of the metal magnetic particles. Surrounding of the surfaces of the metal magnetic particles with the electrically insulating film makes it possible to increase the electrical resistivity of the particles in the claimed powder. As a result, the flow of eddy currents between the metal magnetic particles can be prevented and iron loss resulting from eddy currents can be reduced. (See, e.g., Specification, paragraph [0036])

Nonetheless, even if the infiltrant material disclosed in Krause could be considered electrically insulating, Applicants respectfully submit that Krause still fails to disclose or suggest

providing an electrically insulating film for the metal particles in a thickness range between 0.005 microns and less than or equal to 20 microns. Rather, Krause discloses that regardless of the thickness of the infiltrant material being used, the electrical and magnetic properties of the metal components, specifically the skeleton, are unaffected. (See, e.g., Tables 1-4 and accompanying text.) In contrast, Applicants respectfully submit that the thickness range recited in claim 10 is critical since the insulating film thickness affects at least two aspects of the claimed powder. First, by setting the thickness of the insulating film to be at least 0.005 microns, energy loss resulting from eddy currents is efficiently limited. Second, by setting the thickness of the insulating film to be no more than 20 microns, significant reductions in the magnetic flux density can be prevented. (See, e.g., Specification, paragraph [0037]) Accordingly, Applicants respectfully submit that the criticality of the claimed range rebuts any possible *prima facie* case of obviousness of the claimed thickness range based on Krause alone.

Accordingly, based on at least the arguments presented above, Applicants respectfully submit that claim 10, as amended, defines over Krause. Applicants therefore respectfully request withdrawal of the rejection of claim 10, as amended.

With respect to claims 11, 12, and 14, as amended, each of these claims is dependent on claim 10, as amended, while reciting additional features. Therefore, for at least the reasons presented above for claim 11, Applicants respectfully submit that these dependent claims also define over Krause. Accordingly, Applicant also respectfully request withdrawal of the rejection of claims 11, 12, and 14, as amended.

CONCLUSION

It is respectfully submitted that each of the presently pending claims is in condition for allowance and notification to that effect is requested. Examiner is invited to contact the Applicant's representative at the below-listed telephone number if it is believed that the prosecution of this application may be assisted thereby. Although only certain arguments regarding patentability are set forth herein, there may be other arguments and reasons why the claimed invention is patentable. Applicant reserves the right to raise these arguments in the future.

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Respectfully submitted,

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